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ABSTRACT

User training experiences in Asian countries, using the UNISIST guidelines for training users of scientific and technical information, are reported through summaries of discussions following the presentation of papers, as well as the texts of the papers. Participants, including users, user trainers, and information handlers, heard these papers: (1) The User Training Issue; (2) User Training--The Missing Link between Users and Resources; (3) Means and Methods of Training Users--The UNISIST Manual; (4) User Training in Australia; (5) User Training in Thailand; (6) UNISIST Programme and Plans for 1977-78; (7) Some Information Projects in Southeast Asia based on UNISIST Recommendations; and (8) The Regional Information Network on Science and Technology for Southeast Asia. The recommendations of the seminar stressed the need for Asian members of Unesco, through their national focal points, to establish user education and training programs and recommended evaluation of users, training techniques, and availability of information and facilities; dissemination of the Unesco guide "Education and Training of Users of Scientific and Technical Information--UNISIST Guide for Teachers"; promotion of user education and training within the UNISIST program for assistance to member states; and the education and sensitization of administrators, planners, and policy makers. (RAA)

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UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANIZATION

F I N A L R E P O R T

of

UNISIST Seminar on the Training of
Users of Scientific and Technical Information :

Analysis and Evaluation of UNISIST Guidelines

October 14 - 15, 1976

Bangkok, Thailand

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REPORT ON THE UNISIST SEMINAR ON
TRAINING OF USERS OF SCIENTIFIC AND TECHNICAL INFORMATION: ANALYSIS AND EVALUATION OF UNISIST GUIDELINES
October 14-15, 1976, Bangkok, Thailand

Strengthening library and information infrastructure is presently a major pre-occupation of the various countries in Asia and Oceania. Part of this pre-occupation of building and strengthening information infrastructure is now directed towards the conduct of user training programmes. And rightfully so, for the ultimate object of this whole exercise of developing the information infrastructure is the user.

This Seminar, therefore, on the training of users of scientific and technical information, is a big step geared towards a full cycle activity where the means and the ends meet hopefully in complete harmony. Thus, the Seminar was convened with participants coming from three major groups, the users, the user trainers, and the information handlers. The main objectives in bringing representatives of these three groups together are to create a forum for exchanging points of view and experience regarding the problems of user training and education; to increase awareness of the issue and its various ramifications; to discuss and evaluate the UNISIST Guidelines; and to recommend further actions for Member States and Unesco.

The two-day seminar devoted itself mainly to user training experiences in various countries, using the UNISIST Guidelines (called 'Education and Training of users of scientific and technical information - UNISIST Guide for Teachers") or using informal means, so that participants were given the opportunity to hear and compare the experiences in other countries. Reactions from the participants were heard and solicited for a fruitful and more meaningful sharing of experiences. Half of the second day was devoted to the report on the UNISIST programme and plans for 1977-78, a visit of the facilities of the Asian Institute of Technology, and reports on some of the UNISIST projects in Asia that are currently undertaken or have been programmed for implementation in 1977. Attached as Annexes I and II are the Agenda and List of Participants of the Seminar.

DISCUSSIONS:

Presented hereunder, following the actual sequence of the Agenda, are the discussions or questions raised after the presentation of the papers.

FIRST DAY OF MEETING

The Seminar started with a welcome address, attached as Annex III, delivered by Wadanyu Na Thalang, Governor, Applied Scientific Research Corporation of Thailand. He was followed by Mr. James McDivitt, Director, Unesco Regional Office for Science and Technology for South-East Asia, Jakarta, who spoke on the scope and objectives

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of the Seminar. Mr. McDivitt recalled that Unesco, under its UNISIST programme, had undertaken three types of action in this area: 1) seminars, such as the one organized in Bangkok, 2) publication of guidelines, tools and instructional material, and 3) direct assistance in the organization of workshops for the training of users. Selected as Chairman and Rapporteur of the Seminar were: Mr. T.S. Rajagopalan of INSDOC, India and Miss Delia E. Torrijos of NSDB, Philippines, respectively.

J. Tocatlian's Paper: The User Training Issue, Annex IV

In the discussion which followed the presentation of Mr. Tocatlian's paper, the participants expressed appreciation of the comprehensiveness of his paper and the clear expression of ideas and strategies to provide solution to problems confronting user training. There was an extensive discussion on the meaning to be given to "user training". The seminar accepted the proposed broad definition that user education and training include any effort or programme for providing guidance and instruction to existing and potential users, individually or collectively, with the objective of facilitating the recognition of their own information needs, the formulation of these needs, the effective and efficient use of library and information services, as well as the assessment of these services. The Region also expressed recognition of the need for user training programmes to be soon organized and undertaken. It is hoped that the UNISIST Guide, when printed, will be distributed as widely as possible at the national and regional levels. It is further hoped that when it is distributed, Unesco will make it possible that this again be discussed on a national level, especially among those institutions which will be responsible for conducting user training. A definite plan or agreement on the distribution of work between institutions is also hoped to be drawn up for each individual country. It was generally agreed that user training is a key issue of national information policy and that the promotion of use of services should go hand in hand with improving the provision of services.

R.B. Palmer's Speech: User Training - The Missing Link Between Users and Resources. (Culled and reproduced from Dr. Palmer's Speech) Annex V

As Dr. Palmer basically discussed users in the academic community, questions on training of users who are industrialists, government officials, and policy makers were raised. How does one handle the users who go to the library with specific or definite information requirements. Strategies suggested include:

1. Educating users early in school. As an example, school children are now asked to do some school projects, whereby they are forced to use the library.

2. It was also suggested that information service personnel be tapped as teachers of users.

3. Getting the libraries accepted as part of the university structure and accordingly the librarians as part of faculty is one way of gaining recognition and acceptance of the significance of information services.

4. A portion of the budget should be allocated and spent on user education.

The Seminar was informed that in the Federal Republic of Germany, encyclopedias are placed in school rooms. Teachers stimulate questions, answers for which are not given, but instead school children are asked to look for the answers in available encyclopedias.

The point that what is perhaps actually needed is to train the information specialists and librarians instead of or even more than the users was raised. For it was opined that having trained and properly motivated good information specialists, user training and satisfaction becomes part of their main responsibilities.

There was a proposal that Unesco encourage and promote the education and training of information specialists and the improvement of library services.

A question was raised on whether thought should be given at this point to use a better term for user training. It was indicated that some quarters object to the term, because it connotes a one-sided perspective, or that users believing they need no training, after having finished higher degrees or have had extensive experience in their areas of specialization, reject the user training programme entirely. To this question, a proposal was submitted to emphasize the "provision and use of services" aspects rather than calling it "training".

Turning to the group of agricultural extension workers, the participants emphasized the need to train extension workers or liaison officers. A tie-up between them and the librarians or information specialists/handlers is extremely useful. The same is true in the case of people working in small-scale or secondary industries.

The need for back-up literature and information sources and facilities was belabored, especially in developing countries. A situation was described where users educated or trained abroad come back to find very limited literature, if any, is available in the library/libraries serving his organization or any nearby ones. Here, the conditions frustrate an educated or trained user to perhaps a point where he will no longer turn to the library nor attempt to use published information, which eventually turns him from a first rate scientist/technologist to a less productive or even a second rate one. Unesco through its UNISIST programme can perhaps help in this situation by giving emphasis to strengthening the library collections of its national focal points to ensure availability of literature within the country.

A. Evans Paper ...: Means & Methods of Training Users - The UNISIST Manual, Annex VI

The question was raised as to what type of participants this course outline is addressed. It was also pointed out that instead of having the discussion on the information needs of participants during the course it would perhaps be better to ask the participants on a questionnaire about their information requirements before they come for the course.

As to the question raised on what specific training course can be prescribed for different categories of users, e.g. policy makers, scientists and practitioners, and students, it was stated that the course is basically the same and will follow the same pattern. It will differ only in examples or exercises to be given, except in the case of policy makers, since their requirements are entirely different. So far there has been only limited experiment done on sensitizing policy makers as information users.

P.J. Judge: User Training in Australia

Mr. Judge discussed briefly the information services being rendered by CSIRO, and the training given to its new recruits and to its staff, especially in using the SDI and its data bases. The involvement of users in the design of the SDI system was also illustrated. Here, he expressed the view that CSIRO information users need not know how to locate information, since that responsibility is well provided by the information specialists manning the CSIRO information services.

Considering CSIRO's success in providing information services to its clientele, its method of determining whether information given to users is used or not was asked. It was said that no evaluation has really been done, but feedback was generally favourable.

Sritong Sihapong's Paper ...: User Training in Thailand, Annex VII

This paper traced the beginning of the library education in Thailand. It stressed the need in Thailand for a formal course in information retrieval for users.

SECOND DAY OF MEETING

The 2nd day of the Seminar started with a trip to the Asian Institute of Technology (AIT). Immediately upon arrival at AIT the Seminar was convened. Experiences on the use of the UNISIST Manual for conducting user workshops were reported by Miss Luwarsih Pringgoadisurjo, Director of the Indonesian National Documentation Center (PDIN), Jakarta; Mr. Doo-Hong Kim, Director-General, Korean Scientific and Technical Information Center (KORSTIC); and Mr. T.S. Rajagopalan, Indian National Scientific Documentation Center (INSDOC). All the above institutions conducted user training seminars under the sponsorship of Unesco, using the UNISIST Guide.

More careful adaptation of the UNISIST Guide is suggested to suit the needs of the countries concerned. Korea, for instance, traced the limited success of the first workshops conducted at KORSTIC to the non-homogeniety of the participants. Korea, Indonesia and India, however, endorsed fully the wide implementation of user training programmes at all levels.

Participants from other countries represented in the meeting, which had not tried using the UNISIST Guide were requested to render oral reports on whatever form of user training or similar activities had already been tried or were being conducted in their respective countries. Report for the Philippines was made by Miss D. Torrijos; that for Malaysia was made by Miss Filomena Ng Soo Ching; and that for Japan was made by Dr. H. Ootuka.

Malaysia, Philippines and Japan all agreed that user training is an important activity that ought to be started in their own countries. The Philippines, having done very limited training for small groups of users, thought it timely to start a programme on a national level to eventually be done simultaneously in different parts of the country targetting all groups of users even in the rural areas. Here, Unesco's assistance is very much needed.

As additional information it was reported that in Thailand informal user training is done, especially by the Department of Science Library of the Ministry of Industry. Industrial workers and scientists are briefed on the use of the library and the information sources available there.

In Japan, it is not only necessary to teach students how to use information, but they should also be taught how to write technical reports.

The general sentiment was expressed that user training courses for students are generally easy, but for government officials and for industry, they can be very difficult. However, if strong information awareness drive is carried out for decision-makers, perhaps the overall positive effect on user training programmes will be substantial. Because once convinced, these decision-makers will be highly enthusiastic in allowing their staff to go to user training seminars/workshops.

J. Tocatlian's paper ; UNISIST Programme and Plans for 1977-78, Annex VIII

The Seminar noted with great expectation the reforms being proposed by the Director-General to the General Conference, especially in strengthening Unesco's coordinating function, and fusion/merging of similar or related activities under a general programme.

It was suggested that at the national level, Unesco should perhaps attempt to inform Member States of important decisions rendered, especially after the General Conference or after each Special Meeting - perhaps through the UNISIST Newsletter.

Jacques Valls' Paper : Some Information Projects in Southeast Asia based on UNISIST Recommendations, Annex IX

It was suggested that the SDI pilot project in India be extended to other countries of the region on an experimental basis first, and then later perhaps done on a regular basis.

D. E. Torrijos' Paper : The Regional Information Network on Science & Technology for Southeast Asia, Annex X

The project's concept, rationale and strategy was recognized and complimented by the participants, especially in the aspect of gradual phasing out of foreign expertise and its replacement by expertise available in the region, which is actually the main concept of the Regional Diploma Course for Information Specialists being established in the Philippines. Support from the Federal Republic of Germany was expressed, with potential financial assistance coming from the German Foundation for International Development (DSE).

RECOMMENDATIONS

The Seminar having discussed all significant problems relative to user education and training, unanimously resolved to adopt the following recommendations:

The Seminar, having emphasized the importance for all present and potential users of scientific and technical information to better recognize and formulate their information needs and effectively utilize and assess the libraries and information systems and services available to them:

1. Stresses the need for the Asian National Members of Unesco to establish through the national focal points effective mechanisms - including the necessary provisions in the national information policy - for organizing user education and training programmes for the benefit of various categories and levels of user groups, taking into account national priorities.

2. Recommends for immediate consideration of national focal points the following possible initial steps:

   (a) Determine the extent of knowledge among all categories of users about how to obtain and use information.

   (b) Determine, as a result, which levels, types and techniques of training should have priority, given the available resources.

(c) Ensure at the same time that (i) the leading guides to the literature can be made available for training purposes, (ii) access is obtainable to this back-up literature, and (iii) the potential teaching resources in the country and neighbouring countries are listed and evaluated.

(d) Determine, in the light of the actions above, which institution(s) should be involved in the training programme and what form of technical assistance, if any, should be sought.

3. Recommends the wide distribution and utilization of the Unesco Guide entitled: "Education and Training of Users of Scientific and Technical Information - UNISIST Guide for Teachers".

4. Recommends that strong emphasis be given in the UNISIST programme to the promotion of user education and training, and more specifically to the assistance to Member States in developing and organizing such training programmes.

5. Recommends that strong emphasis be given by Unesco, in its UNISIST programme, in collaboration with appropriate organizations, to the education and sensitization of, on the one hand, administrators, planners and policy-makers, through on the other hand, the extension workers in agriculture and industry.

Having adopted the recommendations, Mr. Y. Shigihara of the Japan Information Center of Science and Technology (JICST) made a response on behalf of the participants. After which, the Seminar was declared closed.

ANNEX I

AGENDA

Thursday 14 October 1976

09:00 - Welcome address (by Wadanyu Nathalang, Governor ASRCT)
Introduction to scope and objectives of the seminar (by J. McDivitt, Unesco)
Selection of Chairman and Rapporteur

09:30 - The User Training Issue (by J. Tocatlian, Unesco)

10:45 - Coffee

11:45 - User Training - The missing link between users and resources (by R.B. Palmer, Barnard College Library, Colombia University)

12:30 - Lunch

14:00 - Means and Methods of Training Users - The UNISIST Manual (by A. Evans, Loughborough University, U.K.)

14:45 - User Training in Australia (by P.J. Judge, CSIRO, Australia)

15:30 - Coffee

16:00 - User Training in Thailand (by Sritong Sihapong)

Friday 15 October 1976

08:30 - Trip to AIT (where the meeting will be held)

09:30 - Using the UNISIST Manual for conducting workshops (by L. Pringgoadisurjo, PDIN, Indonesia; Doo-Hong Kim, KORSTIC, Rep. Korea; T.S. Rajagopalan, INSDOC, India)
Oral Reports rendered for the Philippines by D. Torrijos;
Malaysia by Filomena Ng Soo Ching;
Japan by H. Ootuka

11:30 - Status Report on the UNISIST Programme and plans for 1977-78 (by J. Tocatlian, Unesco)

12:30 - Lunch

13:30 - Visit of AIT

15:00 - Implementation of some UNISIST projects in ASIA (by J. Valls, AIT)

15:30 - The Regional Information Network Project for Southeast Asia (by D. Torrijos, Philippines)

16:00 - Coffee

16:15 - Adoption of recommendations and closure of the Seminar.

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WELCOME ADDRESS BY WADANYU NA THALANG, GOVERNOR APPLIED SCIENTIFIC RESEARCH CORPORATION OF THAILAND

Distinguished Delegates, Guests, Ladies and Gentlemen:

On behalf of the organizers, I sincerely welcome all of you to this UNISIST Seminar and wish that your analysis and evaluation of UNISIST Guidelines will result in appropriate programmes for training users of scientific and technical information.

This is of utmost importance to our countries because we are in need of scientific and technical information which will be applicable for the development of our various economic sectors which should result in desirable developments for society as a whole... and individual members of our individual societies.

At present Science and Technology is playing an important role in various development efforts and the need is for information dissemination to act as the ever important component. By and large, it is needed in ever increasing quantities, with very high quality and validity expected too.

How to achieve the useful levels intended by UNISIST is the main problem which confronts us during this seminar...and the guideline offered for consideration by UNISIST researchers needs to be constructively discussed and selected for appropriate utilization by those familiar with individual experiences, needs, and time constraints.

As for the relevant information and background concerned with User Training, I believe that you have been able to pick out from the Congress and Seminar of the FID/CAO...to the extent that we realize that the information services sector has been very active. However, research activities have also been accellerating and become increasingly complex in nature...to the point where scientists and technologists have had a hard time keeping up with the volume literature, and, therefore, have been unable to fully utilize the good services of information dissemination offices.

Having taken all this into consideration, along with the need to assure that Scientific and Technical Information accumulated is used to the extent that greater socio-economic worth is derived... UNISIST, has thus arranged this Seminar to prepare appropriate programmes for User's Training.

However, I believe it is most appropriate to invite Mr McDivitt of Unesco, to accept the responsibility of further clarifying the aims and objectives of this seminar, and to lead directly into the programme.

I wish all participants in this Seminar the very best of activities and results...with the adoption of some feasible and practical recommendations upon which we can all act immediately after returning to our respective offices. Your tireless efforts here will provide a significant impact, and the assistance desired for furthering socio-economic development plans of our respective nations and the region...Thank you.

THE USER TRAINING ISSUE

by

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I INTRODUCTION

The final goal of the whole "machinery" of information systems, services, networks and programmes is to serve the users. The raison d'être of an intergovernmental programme, such as UNISIST, is to facilitate the flow of scientific and technological information among nations to serve the users. Scientific and technological information is needed and used by many groups of people within society and for many different purposes. It is needed by scientists, engineers, policy-makers, managers, politicians, governmental staff, educators, technicians and the general public. In one form or another it is needed in all aspects of life and for the socio-economical development of nations. However, the best designed and the most sophisticated systems and services are of no value unless users who need information take full advantage of these services and utilize the information to their satisfaction. Hence, the whole issue of user training and education appears as a fundamental one to the problems related to the storage, handling, dissemination and utilization of information.

For the purpose of this seminar it is suggested that user education and training include any effort or programme for providing guidance and instruction to existing and potential users, individually or collectively, with the objective of facilitating their recognition of their own information needs, the formulation of these needs, the effective and efficient use of library and information services, as well as the assessment of these services.

II CATEGORIES OF USER GROUPS

It may seem elementary to say that before the user training issue is analysed in its various aspects one should attempt to define the target group. The idea of "the user" brings together and fuses in a single concept a wide range of individual behaviour resulting in some cases in an artificial statistical construct. In that respect the idea of "the user" may be a trap, if the mental construct has no correspondence in reality.

User groups have been categorized in various fashions. Havelock (1973) divides the "knowledge macrosystem" into four subsystems : research, development, practice and consumption. He then identifies within each subsystem a number of subgroups. For instance, the practice subsystem is subdivided into : the practice professions, the product organizations and the service organizations.

For our purpose we may find it convenient as a first step to consider in somewhat greater detail the categorization employed in "Information for a Changing Society", OECD (1971), keeping in mind that the same kind of analysis can be applied to fields other than science and technology.

The first category of users of scientific and technological information outlined in the OECD study consists of the Scientific Specialist, or scientists, who creates information and uses information as the basis upon which to build his own contributions. Any individual scientist has the problem of attempting to learn what is already known, where it has appeared and how to obtain the source material. Numerous tools and services exist to help the scientist in his search. Does he know how to derive full benefit from them? After he has located the information, the scientist faces another major problem - that of judging the value of this information. Has this information been superseded by more recent information? Does it contain errors? Has it been evaluated? Are there any critical reviews that point out the limitations in the experimental methodology or uncertainties in interpretation?

Scientific and technological information is also used by engineers as an aid to the interpretation of data, in the design of new equipment, or to help solve a technological problem. According to the above-mentioned study, "even though most countries support far more technological than scientific activities, their support of systematic handling of technological information for industry is not nearly so large as for handling scientific information". The situation varies from one industry to another, and within the same industry it may vary widely from one firm to another. A user of industrial information is faced with a less organized state of information systems and services; for many reasons : the proprietary nature of such information, the reluctance of competitive enterprises to share

information, the cost of information systems and services, the information-gathering habits of industrial managers, and the very fact that informal sources of information, such as the visits by technical representatives and the industrial sales literature are as important as the formal information systems. In the absence of an appropriate service given by conventional technical information systems, where can the manufacturers obtain design and product engineering information? How can technicians and engineers be sure that the designs incorporated in handbooks are not technologically obsolete?

A third important group of users is constituted by administrators, planners and policy-makers who need technical information, repackaged in a different fashion, to help them make decisions. Politicians need a variety of information to assist them understand the political consequences of a given technological decision. Perhaps the great difficulty here is that many problems are not well enough understood for decision-makers to know what kind of information they actually need. This is especially true when considering major social problems. Even when the kind of information needed is identified, it may be very difficult to locate. Management information systems (MIS) are especially designed for that purpose and should be based on a logical relationship between data and decisions, as distinguished from the data banks and document retrieval systems usually meant by science and technology information systems (STIS). Management Information Systems are very expensive and if not designed carefully may be a poor aid to decisions. Another major problem is that much of the information needed by this category of users is available in technical terms understandable only to the specialists in the field. This information needs to be interpreted and condensed to make it useful for problems other than those for which it was originally collected. In general, it may be said that the training of this category of user is particularly complex.

Finally, the non-technical citizen, who needs scientific and technical information, appropriately interpreted and applied, in order to understand the society he lives in, constitutes the fourth category of users. This scientific and technical information is interpreted and disseminated by newspapers, magazines, books, radio and television, etc. As mentioned in the OECD study, "because so much of the material well-being of a society is based upon technological developments and because so many modern problems are in turn a consequence of the use of technology, an informed and sophisticated electorate is essential".

It may be convenient as a first step to divide users of scientific and technological information into four large arbitrary categories. It should be pointed out, however, that this categorization may be found

unoperative in practice. Although these groups may be characterized by common features with respect to information needs and use, Menou (1972, 1976) advocates that the types of activity performed by individuals are more important to define information needs and use. Any individual is engaged each day in performing certain functions and various types of actions (e.g. gathering facts, preparing for future action, making decisions, participating in production of some sort, communicating, reporting, managing other people, taking part in administrative procedures, solving material problems, etc.) which require different types of information and involve different patterns of information gathering and use. In fact one individual falls into several of the arbitrary classifications mentioned above.

Therefore, emphasis may be better placed on "information to do what?" instead of "information for whom?"

Having briefly touched on the question of defining the target group one may need to give some thought to the issue of non-use. We deal here with a problem common to all countries, of potential users who are not convinced of the need to use information services systematically, even when they exist and work well. According to Gray (1976), there are three main groups of pool users, or non-users :

1 - "I know everything of value that is going on in my field". It may be a true statement for only a few scientists working in a narrow, highly specialized field at the frontiers of knowledge. It is not true for most scientists and some way has to be found, in training, to clarify the point.

2 - "By the time I have found the information, I may as well have done the work over again". Again, it is probably true of few simple measurements, but in general it points the way to a problem of user training.

3 - "I have no time to spend getting information". The statement implies that one can get by without information, and, therefore, forces the training back to the fundamental issue of the value of information.

An important objective of user training is, in fact, to break down these attitudes against a background of developing information services.

III INFORMATION NEEDS VERSUS INFORMATION-SEEKING BEHAVIOUR

It may be useful at this point to clarify the distinction which exists between the two concepts "information needs" and "information-seeking behaviour". These have often been confused in both research and writing.

According to Wilson (1976), the difference can be illustrated by reference to the kinds of questions to which the two concepts give rise.

Finding out about information needs involves asking:

Does he need information?

Does he know he needs information?

What kind of information does he need?

What factors are likely to influence needs?

Finding out about information-seeking behaviour involves asking :

What does he do about his need?

How does he select information resources?

How does he carry out a search for information?

What factors are likely to affect his behaviour?

For developing user-training programmes it is this second area of information-seeking behaviour which is particularly important.

IV THE INVESTIGATION OF USER NEEDS AND INFORMATION-SEEKING BEHAVIOUR AS A BASIS FOR USER-TRAINING PROGRAMMES

Through the experience of librarians and information workers, the first set of questions on information needs can be asked and answered at the commonsense level of understanding. The conclusion may then be reached that some sort of user training is needed. Additional information is necessary before such training can be planned. The function of an investigation is to provide answers to basic questions which the designer of a training programme needs. According to Wilson (1976) the investigation should attempt to answer the following six broad questions:

"1. For WHOM is the training intended? A user needs study can help in defining the target group and in drawing attention to sub-groups with special needs. For example, a study by Törnudd (1959) of Scandinavian research and development workers revealed that those working in research institutes were less able to keep up with new developments in their field than their colleagues in universities or in industry. This suggests that training directed at that sub-group might have most impact.

2. WHY is training required? A user needs investigation can provide or support arguments for the introduction of training programmes by showing the extent of need and, by comparison between informed and ill-informed groups, by suggesting the general benefits that might result from training.

3. WHAT is the training programme intended to accomplish? User needs investigations can help to set realistic objectives for a training programme by helping to identify precise areas in which knowledge of information sources or information-seeking procedures is lacking. Objectives set on this basis can be defended much more strongly in discussion with agencies which may be providing the funds for a training programme.

4. WHERE should the training take place? A consideration of the earlier comments on user groups will lead to the realization that different locations may need to be considered for different user groups. For some groups with a high awareness of information needs a national or regional course may be possible; for groups with a lower level of awareness it may be necessary to implement courses within individual organizations.

5. WHAT training methods should be used? The deeper understanding of the user group's needs attained through an investigation can lead to a better appreciation of what instructional methods are likely to have most success.

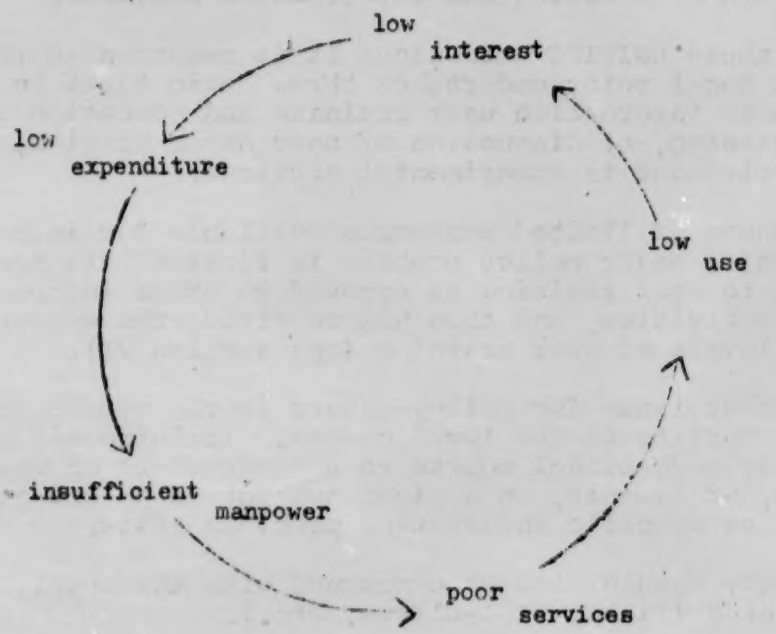
6. WHEN should training take place? An understanding of work schedules and cycles will enable training to be fitted into the normal activities of the target group with maximum effectiveness."

Studies of use and non-use of information and information services can affect not only the design of training programmes for users but most importantly the choice of information services to be provided. It is therefore necessary that those who make information policy in a country take account of these studies. The difficulty lies

in finding suitable techniques for studies for use. For instance, surveys of the origins of requests made to libraries can give some insight into the use of various existing information sources, but only in relation to demands for relevant literature, not in relation to the avoidance of irrelevant literature. In addition these surveys say little about how far low use of a given service is the fault of the service or the fault of the users. In any case, imperfect as they may be, the investigations of user needs, information-seeking behaviour, and patterns of use and non-use of information constitute a useful tool for the policy-makers and for developing training programmes.

V USER TRAINING AS A KEY ISSUE OF NATIONAL INFORMATION POLICY

In many developing countries the situation is somewhat clear without detailed study. According to Gray (1967), "the basic problem of national information policy is how to attack a vicious circle which relates low interest and low use to poor or non-existing services, which result from insufficient or untrained or badly paid information specialists, who result from low expenditure on information services, which results to a large extent from low interest and use."



In such a situation, the promotion of use of services should go hand in hand with improving the provision of services. It is crucial that user training does not run ahead of the provision of information services and back-up resources, lest frustration and disappointment result.

For example, in a small country with limited resources one may be able to train users to use "Current Contents" (which is based on core journals) and meet most resulting document requests from literature existing in national collections. On the other hand, if one wants to do the same for "Bulletin Signalétique" or "Chemical Abstracts", then one should be concerned with the problem of organizing the supply of less used literature from comprehensive libraries in the region or lending libraries providing an international service, such as the British Library Lending Division.

Hand in hand with the development of adequate information services, user training is a key issue of national policy. Even the best designed information services are of little practical value if users either cannot or will not use them. Yet, user training appears to be a neglected issue - little studied and little promoted by policy makers.

As stated in section 5.2 of "Information Policy Objectives (UNISIST proposals)", Unesco (1974) :

> "The general aim of user education should be to reach a situation, at each stage in the progress of science and in the development of information technology, when most if not all scientists recognize their information needs clearly and can assess the strengths and weaknesses of existing and experimental services."

In these UNISIST guidelines it is recommended that a national focal point undertakes three basic tasks in relation to information user training and education : a) basic training, b) discussion of user needs studies, and c) user involvement in experimental services.

Because of limited resources available for information in general a major policy problem is first of all how much to allot to user training as opposed to other information-related activities, and then how to divide the sum among the various levels of user training (see section VI).

Another issue for policy-makers is the type of training most appropriate to the level chosen. Training may be given as a basic educational course as a "refresher" or "up-dating" workshop, or seminar, on a given subject or on-the-job training as specific information problems arise.

Policy should also be concerned with the supply of aids for training (films, tape-slides, etc.).

. . .

Two major aspects of user education programmes related to a national policy are 1) the academic policy, and 2) the library and information policy. According to Neelameghan (1976) in order to facilitate the effective operation of user education programmes, it is desirable that academic policy covers, inter alia, the following :

1. Considering the acquisition of experience and proficiency by students at all levels in the use of library and information systems as an educational objective to be achieved.

2. Considering the education and training in the effective use of library and information systems as an integral part of the education programme.

3. Designing the curriculum in such a way as to provide students adequate opportunities for self-instruction through independent study involving use of library and information systems and services.

4. Making work on a project involving guided research and independent enquiry as a prerequisite for graduation.

5. Use of instructional methods such as, seminars, colloquia, workshops, clinics, etc. involving prior "library research" information analysis and synthesis, at the college level.

6. Provision of adequate funds and facilities for user orientation and education programmes as an integral part of the academic programme.

7. Inclusion of information staff in key faculty committees such as the curriculum committee in order to provide for adequate interaction and participation of the library and information personnel in the academic programmes and activities.

8. Recognizing the educational role of library and information personnel by awarding academic status to these professionals."

According to the same author, the effectiveness and efficiency of user education programmes should be assured by adopting appropriate library and information policies which should cover, inter alia, the following :

"1. Guidance and instruction in the use of library and information systems should be considered as an integral part of library's functions and professional responsibilities of the information personnel.

2. The library and information systems should assume a positive and active role in meeting the educational purposes of the institution.

3. In order to get the highest payoff from the library's contribution to the education programme, the library and information staff should work with and through the faculty in designing programmes to influence student behaviour in using library and information.

4. Since the potential for and nature of collaboration between library and faculty varies from discipline to discipline and from individual to individual, the library should be alert to possibilities at both levels.

5. In designing user education programmes, the library and information personnel should be sensitive to the difference in the mass approach at the school and undergraduate library and the individual scholar approach in the university library system.

6. Library activities and programmes should be so designed and the library and information staff should be of such quality that productive collaboration with the teaching faculty is facilitated. For example, the library staff interacting with the undergraduate programme, should have in addition to their professional competence in the information field, a high level liberal arts background, a certain commitment to the teaching enterprise, and a thorough understanding of curriculum design, learning theory, and instructional methods.

7. User education programmes should be designed to be flexible - adaptable to the different student levels and faculty needs, allow the use of various instructional media and methods, include a built-in feed-back mechanism, and facilitate innovation and easy implementation.

8. Library and information activities and programmes should be derived from and reflect, the changing concept of library and information systems, e.g.

a) their dynamic participative role in the educational programme

b) their future information environment and future task orientation

c) as a system and network in which information flows to points where it is needed rather than as a 'building' to which people come for information

d) their user-centred and service-centred, rather than technique-centred activities

e) their ability to use multimedia in information transfer, rather than being solely book-based."

One important question is : Who should be involved in the national policy and practice of user education? According to Gray (1976) the following organizations should be considered :

"1. National focal point - Has the broad responsibility of ensuring that long-term objectives are agreed, short-term goals set, responsibilities allocated to appropriate organizations, co-ordination and publicity provided for as necessary, and the activities fitted into national information policy as a whole.

2. National library or information centre - Can devise and run demonstration courses, drawing on its wide range of secondary publications and other information sources, and so give guidelines to institutions wishing to tailor special courses for their own purposes.

3. Academic libraries - Can be largely or wholly responsible singly or in co-operative groups, for training at undergraduate, postgraduate and academic-staff levels and possibly at other levels too.

4. Library and Information Science Schools - Can co-operate on, or even take over, the functions in 3. above. They may have less contact with users than other organizations; but they can train new information specialists to be user-conscious.

5. Scientific and professional institutions - are primarily interested in research and development staff, professional practitioners and professionals who go into management. But they are not usually strong in developing countries and, even in developed countries, most of them have played a subsidiary role.

6. Applied R + D Institutes - Can be the main centres of specialized training for R and D workers outside academic organizations and for professionals and technically competent managers.

7. Extension workers - Are the obvious source of training for non-technical managers and can assist with training at the levels in 6. above.

VI LEVELS OF TRAINING

It has been mentioned above (see section V) that a major policy problem is how to divide the funds alloted to user training between the various levels of possible training. Here again, one may categorize users in various fashions. For the sake of simplicity one may divide into two broad classes : future users and existing users. Under each class several levels may be considered :

1) Future Users :

a) schoolchildren
b) freshmen
c) undergraduate majors
d) graduate students
e) post-graduates (on course)

2) Existing Users :

a) post-graduates on research
b) academic staff (undergraduate, graduate, postgraduate)
c) science researchers
d) government staff, policy-makers and planners
e) industrial R and D staff
f) professional practitioners
g) managers

Some of these levels, such as the schoolchildren (level 1) a)) have been neglected by most developed countries. Developing countries, which often have original methods of bridging their education gaps, could give a lead here.

The training needs of postgraduates on research and academic staff (levels 2) a) and b)) should be angled towards research requirements. The training of government staff and policy-makers and planners (level 2) d)) should among other things emphasize the value of information and have a "sensitization role".

The training needs of professional practitioners (level 2) f)) should be angled towards practical (not research) requirements.

In each case and for each level it should always be remembered that the user exists in a unique environment. Training should take this environment into full account. For instance, an industrial engineer's environment is his company, his role in that company and its structure. The company itself is unique in its location, technology, market, size, geographical position, etc. These and other factors make up the uniqueness of the total environment. It goes without saying that the situation varies from country to country where a multitude of socio-cultural factors add up to make the particular environment of the users.

If one may generalize certain broad characteristics and trends we may point out some differences between levels. In comparing the academic scientist and the industrial engineer, Sweeney (1976) points out that unlike that of the academic scientist the environment of the

industrial user is not one which has communication of information as an objective. The academic scientist has the objective of discovering new knowledge (generating new information) through his research and communicating this information to his peers through correspondence, discussions, papers, meetings and publications. He also obtains information through the same communication system. The mechanisms through which communication of information occurs are provided by primary and secondary journals, seminars, conferences, sabbaticals, etc.

On the other hand, the user in industry, even though he may be a scientist, does not usually operate within such a communication system. His objective is to apply science and technology within a constantly changing framework of economic, commercial and social information to products, processes, systems and marketing. Each situation is novel and unique in itself, to the point where previously acquired knowledge and experience can provide only part of the input. As a consequence, the user in industry spends more time than the academic scientist for assembling, evaluating and communicating information. Sweeney (1976) says that 60% to 70% of the industrial engineer's total time may be spent thus. He proceeds to assert that successful innovating firms have been demonstrated to have strong links with specifically relevant sources of information and to have active programmes for acquiring and processing knowledge and information.

For each level, one may consider various means and methods of training. As pointed out by Evans (1976) "There is no single approach and content appropriate for all groups. On the contrary, each occasion deserves separate consideration". The means and methods of training users and an analysis of the UNISIST Manual will be dealt with under a separate item of the agenda.

VII SOME PROBLEMS IN ACADEMIC USER EDUCATION PROGRAMMES

Academic education offers the best way to create an information-conscious society and prepare the users of tomorrow to fully utilize the information services offered to them. Short refresher courses, up-dating workshops, specialized seminars undoubtedly have their value, but in the long-run basic education in the academic environment perhaps offers the best possible investment.

According to Neelameghan (1976) such academic programmes may cover one or more of the following :

"- orientation to the layout, location of materials and facilities, and other physical aspects of library and information systems.

- use of the library catalogue and other information access and finding aids, including computer and telecommunication systems.

- use of the information resources and facilities in general or for a specific purpose, available in and through, the library and information system/ network.

- experience in comprehensive search for information (library research).

- using library as a teaching centre, evolving the academic programmes around and from the library and information system (library college concept)."

While there is a fairly widespread appreciation of the need and value of user education and training programmes in the academic environment, according to Neelameghan (1976) "there are but a few such programmes really successful in practice. In fact, one often encounters apathy and even resistance to user education programmes from students and faculty." The same author proceeds to give some reasons for this situation, which individually and collectively produce no motivation to take the orientation courses and programmes and tend to raise the apathy and resistance referred to. These reasons include the following :

"1. Students and faculty tend to consider library instruction as something extracurricular and not germane to the educational development of students.

2. Complacency arising from the belief that satisfactory experiences in the school library gives adequate competence in the effective use of the college library and information systems. This may result in or from an inadequate knowledge of the range of college library resources and services and of the difference in the school and college educational programmes.

3. The persistence of the concept that a library lecture given during the school 'library hour' or on entering college will solve or build adequate competence for solving all information search problems for all time.

4. The misconception that ability to use the library catalogue is all that one needs for effectively exploring, accessing, and using library and information resources. Millicent Palmer points out that "the persistent Myth of the Card Catalog is ... a product of our past instruction emphasis, an emphasis that may have been relatively valid in the day of "The Book", before the literature of journals, reports, government publications, conference between informed and uninformed scholars and students."

5. The arrangement of the traditional library instruction centering around the card catalogue, classification, various indexes and reference books, including sometimes history of books and libraries, and practical hints on searching for information and telling students what they are expected to know, and assigning them some practice exercise often of no practical value and unrelated to their courses, appear to give some students a sense of security and competence in their approach to library and information systems. This feeling may be a false one and inhibit them from exploring the information sources further which they might have done otherwise.

6. Martha Hackman further points out that : "Too often library instruction has served as a sort of procrustean device for filling students into a rigid system designed without consideration for their needs. The motives behind many such programs have had more to do with publicity, economy, or enhancing the librarian's image as a member of the teaching faculty than with the education of students. By and large, library instruction has been impersonal, mechanical, and above all, dull.""

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USER TRAINING - THE MISSING LINK BETWEEN USERS AND RESOURCES

by

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New York, N.Y., U.S.A.

It is a pleasure to participate in this program with you today. It is a coincidence that I am living temporarily in Bangkok at the time of this meeting, for I am on Sabbatical leave from Barnard College where I am the director of the library. Barnard is the undergraduate liberal arts college for women at Columbia University in the City of New York.

En route to Thailand as a volunteer lecturer for USIS, I have spoken to librarians and educators in Jakarta, Kuala Lumpur and Penang on this very subject of user training.

Although my experiences are in academic institutions, including secondary school, college and university's libraries, I think that there are common principles concerning user-training that we can share, even if you have to adapt them to your own special circumstances. After my reading of Mr. Tocatlian's excellent and concise paper, I see we are very much in agreement.

This is my third trip to and through Asia since 1972-1973. I lived and worked in Kathmandu, Nepal and Kabul, Afghanistan where I served as a Fulbright Library Consultant and Adviser to the university librarians. I was to help to train users of libraries. They finally realized that user-training was a key issue of national information policy. After three months it became apparent I should have been showing the readers how to use the library more than in teaching, but more of that later.

Initially I wish to speak about user-training in academic institutions, where the lack of appropriate user-training perpetuates the problem. As a result, information networks are designed for many people who do not know how to find the most useful information related to particular subjects. If that is a goal of

libraries and information centres/institutions, to enable people to find the most useful information they need, it is not enough just to collect and organize materials. Priorities need to be changed within the institution, and staff positions need to be recast accordingly.

Within any institution, staff problems can be changed, however slightly to begin an effective user-training program. Although I realize these are difficult questions for some in the audience to answer, I am curious to know what part of your budget is for user-training? What staff members are assigned to this problem as their primary responsibility?

At Barnard College, I became aware of the need for user-training from a personal experience about 7 years ago, and I have been speaking on this subject ever since.

Two students came to my office to complain that our library did not have sufficient materials by and about black people. I asked why they felt this, A 4th year senior student, said she saw only one book, one on Negro Cowboys, on the shelf. Since our library does not collect in-depth books on cowboys, I thought she had chosen a poor example and used that method of determining collection strength. The specific material she actually needed was periodical journal articles for it was not yet in book form. I then asked her where would she look to find these journal articles? She answered - possibly the card catalog! The second year student knew that there were indexing services for periodicals. Somewhere in her training she had learned that. The older student apologized to me for her ignorant questions but she graduated with honors in sociology 2 months later from Barnard. I then realized that the library was not providing sufficient user-training and something was also lacking in the classroom.

For a number of years our approach to user-training changed annually, because we were dissatisfied with it. Finally we came to a series of conclusions that helped to shape our user-training approach into the successful program it is today:

1. We wanted to bring to the classroom the shock and excitement we remembered in library school when we were exposed to a number of reference sources that <u>would</u> have been useful to us as undergraduates. This sense of discovery, we felt, could be transmitted in the classroom as part of a user-training program. Parenthetically, I think, it is useful to ask ourselves how <u>we</u> first made our discovery of the wider world of information. Under what circumstances? Who or what caused it? Was it a structural experience? Was it casual?

2. Heavy reliance on one or a few textbooks, assigned by faculty, undermines the primary purpose of the library - to expose students to a variety of useful materials. Students do not experience any learning process in their own discovery of materials if textbooks are their only library contact.

3. The library talk should become part of the course, given in instructor's classroom, and with the instructor present.

4. The talk should be given in conjunction with a research paper assignment because of student motivation.

5. The talk should be specifically tailored to each subject or course, using actual topics of students' papers to teach different types of references sources.

6. That the most appropriate timing be used in scheduling the talk, which is just before the students dig into their research, or ideally after they have struggled a little, the best psychological moment.

7. Substantial time must be left for questions during and after the presentation.

We have found these to be the optimum conditions for connecting the library to students through user-training. Without this effort, much of what the library does is in vain. The experience of students in user-training should be such that it would be reinforced, again and again, and after college, whenever they use any source of information. I believe in this training so strongly, because I feel it has lifetime application. Such user-training has been lacking in effect, and is one of the reasons, we are here today.

In pages 7-9 of Mr. Tocatlian's paper, he mentions many principles that are similar to the conclusions we reached from our own experience as mentioned above. Specifically on page 7 - he quotes from Neelameghan (1976), how an appropriate academic policy is necessary to form part for a national policy concerning information and user-training.

I am sure it will vary from country to country as to how to formulate a user-training program. Maybe the easiest way in this region is to develop a national program that requires user-training at all levels mentioned in point 1 on page 7. This approach would be difficult in the U.S. But I believe any library or information center can begin in its own way to develop a user-training to meet its present needs.

Points 1-8 (p.7) are all of value for establishing a good program. I have already touched on a number of these points, so I don't want to read them, but p.7.3 bears special attention because it is a major problem.

"..... the curriculum in such a way as to provide students adequate opportunities for self-instruction through independent study involving use of library and information systems and services." Although I do not come from an iceberg region, we would refer to such a problem "as the tip of the iceberg", meaning just a small part showing with larger problems linking beneath. I wonder if there is a comparable phrase in Bangkok for the same problem.

Until the philosophy of education and method of instruction change in this region and the world for that matter, there will always be a discrepancy, a difference between what librarians or information specialists expect from users trained in some discipline and how, the users trained or untrained, view the information institutions. To elaborate - if students are asked to read only a textbook and learn lecture notes for successful rites of passage to graduation, libraries and information centers are unnecessary. Until teachers in cooperation with librarians expect wider reading from their students and reward them for it, our work is in vain. Therefore, teacher and researchers, even those with Ph.D.s need to be shown different teaching methods to develop broader learning responsibilities, all of which make greater demands on their time. Enroute in a neighbouring country, I overheard an engineering student who boasted how little he had to use a library to receive his engineering degree. I hope he isn't going to become a designer of a bridge or building. I told you "that was the tip of the iceberg". There is danger lurking below the tip.

See points 1-8 on p.8 of Tocatlian's paper especially point 3 concerning the relationship between the library and information staff on the one hand and the teaching faculty and research staff on the other.

Who is responsible for user-training education in any national education effort? Who asks that it be a requirement at all levels listed by Gray on p.8 of the report? Are any librarians or formal library helping to show educational policy members or any corresponding agency or interested government agencies as to how much money is spent each year by libraries on user-training? As some accrediting agencies ask in the U.S., where a portion of your instructional budget goes to libraries, shouldn't libraries and information centers be held to account for an acceptable portion of their budget for user-training?

Neelameghan is quoted again with great effect on p.11 and 12 in his discussion of some problem in academic user education programs. The points listed on p.12 are concerned with pitfalls to be avoided, all of which are valid.

There I would like to describe the process that occurs when my head reference librarian and faculty teacher comes for her library talk.

Usually at the beginning of each semester, my head reference librarian contacts or is contacted by a faculty member who desires a library talk in the classroom. The teacher provides the librarian with examples of specific topics of students' essays.

With the specific topics, the librarian prepares a talk from reference sources, which she will take with her to the classroom. She will actually show step-by-step how she would proceed to find out information about this research topic. The students have a chance to see and examine the only sources they need to write their papers. Many times the teacher learns from a new source from the librarian as the librarian also learns more of the teacher's

needs. Excellent team teaching. The students are highly motivated, because the talk is timed for their specific needs. Many questions follow the talk usually for the next weeks at the reference desk in the library. Now the student knows the library member's face and some of the ability of the librarian.

Students are moved from the specific problem in the larger problems of information by being shown types of information sources. In other words, they not only learn there is a subject encyclopedia in their discipline, but also in many others. The same with indexing and abstracting services. They are aware of the types of source to expect rather than learning specific titles. This is not a dull library talk that begins and ends with the card catalog as Neelameghan warns.

It should be a liberating experience for students, helping to build their confidence in their ability to discover more information more quickly, and it works.

A crucial distinction - my reference librarian is not an expert in the many disciplines she has contact with, but she is an expert in finding out information, finding out where to find the answer. This is sometimes lost on faculty who have worked so hard for their Ph.D's without realizing their own reliance on information specialists.

As information centers identify their clientele both those that work in or near a Center, and those that must be attracted from afar, special workshops maybe designed to poise the awareness of both user and non-users (maybe not mixed) about the resources available with appropriate examples of search strategy shown to them. Many users of libraries, and I assume, other information sources are so ignorant of what is available, they don't know how ignorant they are. Maybe that is a first step to show them, delicately and diplomatically, what services you can provide. It might be useful to invite certain specialized students for workshops on user training e.g., some who write their paper learned that 50% of the material was available.

I realize that academic institutions have a captive clientele. Even there, it is not easy. But I am confident that the methods I have described are foolproof and the principles behind them are common to any informational endeavors. Therefore, I would suggest every region begin to run such workshops on user-training to help train the trainers and the trainees. In each country, there may already be some outstanding efforts. In my own country, certain small colleges have been doing an excellent job in this area for a number of years.

I would like to recommend a book that is a collection of essays on the subjects. Usually this book is in Chula University library when it is not in my hands.

The book is edited by John Lutans and is entitled Educating the Library User, pub. by R.R. Bowker, 1974 in New York.

Three essays I would like to bring to your attention: 1st by Thomas Kirk, Science Librarian at Earlhan College, entitled "Problems in Library Instruction in Four-Year Colleges". On p.93 he has a figure for the search strategy for undergraduate biology students.

The 2nd essay is by Mr. Farber, Director of Earlhan College Library, on "Library instruction throughout the curriculum".

The 3rd essay by Edvard Chapman, Librarian, Polytechnic Institute: "A historic look at library integration in technological universities". This essay describes an innovative library use instruction program undertaken more than 20 years ago.

Much activity has been undertaken for many years in the States, but there has been little interest in this problem during the last 6-7 years. As students remain the same or lesser, I think more libraries and information centers will be asked how are their present sources used and what can be done to achieve increased use and wider dissemination. The point I have mentioned above maybe a beginning to help establish a better link between the user and the sources of information.

1. Each source should develop its own user training program with awareness of what training may occur before or might occur after.

2. The enlightened information specialists could entice more users by veering away from a passive approach and turning to a more active approach both in their local situations and regionally within a nation, and nationally.

3. Training comes slowly to those who feel they already know what happens at almost all levels of education. But it may be most difficult with the people most of you serve - those very highly trained or highly placed in government agencies.

4. My own experience in Kathmandu and Kabul led me to realize that librarians understand this problem quickly, but they need help in showing faculty or Ministries of Education that this problem is an important one. Maybe an individual information specialist with a well-planned workshop can act as an effective catalyst for these reader changes in understanding that information does not just flow, as water from a tap, but it needs to be directed to and through certain passages to be really useful. If these passages are not aware of the need and open to the information flow our goals and our work are unnecessary. Since I do not believe that is so, I wish you well in your efforts to find the appropriate way for user education that can effect some of these changes.

ANNEX VI

Means and Methods of Training Users

By

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'There is not a single approach and content appropriate for all groups. On the contrary, each occasion deserves separate consideration. The local circumstances can influence both the approach and the content. Factors such as jobs or fields of study, inter-library co-operation, group size, environment, related work and demands on time need to be taken into consideration. Many of these factors can be anticipated and incorporated into the planning. Sometimes unexpected events necessitate discarding planned material and substituting more appropriate material during the actual presentation.'

This quote from the UNISIST Manual really sums up the situation in general terms although there are of course certain basic aspects that are soon established. Having determined that a course is required, the nature of the participating group will soon become clear and in itself, to a certain extent at least, dictate the timing and duration of the course as a whole. Whatever type or length of course or whatever the mix of participants that evolves, the emphasis must clearly be more on training in information retrieval and other related skills and not on the bibliographic approach, or what has been referred to elsewhere as the mini-librarianship approach. The balance between these two extremes should both improve the ability of the participants to use existing information resources already known to them, and also make them aware of other information resources and services available to them, either in their own library/documentation centre, or indeed, elsewhere. It is the lack of awareness, unfortunately existent in many students and indeed, practitioners, in science and technology, that has to be overcome as far as possible. Such awareness does not mean that they can always find answers directly themselves, but that they can at least ask the right questions in their search for knowledge, even if through a librarian or information officer.

In an institution of higher education for example, courses may vary in length from three one hour sessions to a series of twenty or thirty hours, spread over

several terms or semesters. Whilst introductory lectures may be given, within reason, at any time during a course, it is preferable that the more intensive part of the course should be given just prior to a time of extended need, such as project work. At all stages it is essential that close collaboration takes place with the teaching staff in the relevant department. The one particular advantage of teaching this particular type of group is that they will be of the same educational level and in all probability, concerned with one particular subject area. However, this is not usually the case with a group of practising engineers and scientists, although of course preferable. The probability is that they will be of a mixed subject orientation and indeed with different job structures - for example, research, production or planning. A course for such a group also has such possible disadvantages as having to be given by 'outside' lecturers in a strange environment. They do however have the advantage that they will generally be of short duration and concentrated - possibly between one and three days. An example of a three day workshop is given as Appendix 1.

In running such a course it is of paramount importance that the location is suitable and it has been found useful to send a brief aide-memoire to the host institution (Appendix 2), outlining various requirements. This is particularly necessary in view of the essential practical elements of all types of course. These practical exercises should aim to illustrate the range of resources available to a user. It is also usually necessary to emphasise to participants that in such practical exercises, the 'right' answer is of course extremely welcome, but the methodology of information retrieval in its basic sense is far more important. Such methodology as may be given in the lectures may of course have to be adjusted - often severely in some cases - to meet the existing facilities within the library/documentation centre of the host institution. The principal requirement is that a 'subject' approach to the collection is possible and not merely a purely bibliographical one. It is of course possible for the host institution to produce lists of encyclopaedias, handbooks, abstract journals, etc. to meet otherwise unavailable search routes, but this tends to give the participants a rather rigid outlook which is unlikely to be repeated in the next information centre he visits.

Arguments about the value (or otherwise) of handouts and lists will no doubt continue, but in general it can definitely be said that not only are they very soon out of date, but they are almost invariably in the wrong place at the wrong time.

There is now a fairly extensive bibliography on 'user education' but little if any, on the structure of actual suggested courses. In the UNISIST Manual we have attempted to establish a framework around which any course could be built to meet a variety of needs, and emphasising where necessary, modifications which may be applied to meet differences in such areas as the subject background of the participants, their educational level, and the location of

the course. There are of course available, a plethora of books of such titles as 'Information sources in ...', or 'How to find out about ...', in many languages and also of variable quality. One of the more recent of exceptionally high standard is that by Parker and Turley, entitled 'Information sources in science and technology', published in 1975 by Butterworths, London. Such an authoritative book as this may be used by an erstwhile course instructor as a basis for his lectures quite extensively. Many institutions (for example Chalmers Institute of Technology in Gothenburg) have produced their own internal publications in this field which although invaluable in their own country, have of course severe language restrictions.

To return to my original point about flexibility, this has not only been found to be true in our own University at Loughborough, but also confirmed very clearly in the field trials of the Manual in India and Korea. Thus while it is by no means impossible for 'outside' lecturers to run courses in another institution, the aim must be to train internal people for such tasks wherever possible. Hence although it is hoped that scientists and technologists in general may find parts of the manual - particularly the early sections of chapters 5, 6 and 7 - useful directly to themselves, the aim is predominantly to provide a manual for the ultimate teachers of user education.

APPENDIX 1

Example of a 3-day workshop

DAY 1		**INTRODUCTION**
9.30 - 10.30		Introduction to information retrieval
		- value of information - sources of information - using libraries/documentation centres to find information - finding tools
10.30 - 11.30		Preliminary discussion to establish needs of participants
11.30 - 12.00		Coffee break
12.00 - 1.00		Visit to the various sections of the host institution (i.e. library/ documentation centre)
1.00 - 2.30		Lunch break
2.30 - 3.30		Practical work - quick reference questions
3.30 - 4.00		Coffee break
4.00 - 5.00		Discussion on practical sessions
DAY 2		**BASIC SEARCH TECHNIQUES**
9.30 - 11.00		State-of-the-art literature search
		- needs - search strategy - evaluation and supplementation - case study - common problems (e.g. headings, alphabetical order, accuracy and reliability) - data and factual information
11.00 - 11.30		Coffee break
11.30 - 1.00		Practical work 2 - project information
1.00 - 2.30		Lunch break
2.30 - 3.30		Discussion on morning practical session
3.30 - 5.00		Practical work 2 - (continued)

DAY 3 DEVELOPING INFORMATION USE

9.30 - 11.00 Special categories of information and literature

- product information
- standards information
- materials information
- statistics information
- patents information
- report literature
- official publications

11.00 - 11.30 Coffee break

11.30 - 1.00 Current awareness and personal files

1.00 - 2.30 Lunch break

2.30 - 3.30 Special case study (e.g. related to particular need of one of participants)

3.30 - 4.00 Coffee break

4.00 - 5.00 Discussion and course evaluation

APPENDIX 2

Brief Aide-Memoire for Suitability of Library/ Information Centre for User Education Workshops

There are certain basic assumptions that must be made.

a. The holding of the workshop is welcomed, in principle, by the Director of the Library/Information Centre.

b. A suitable group of practising scientists/technologists (or students) who are information users can be brought together for the requisite period.

These should not be librarians or information officers, although perhaps a few extra people in this category could sit in the lectures if they wanted to, but not participate in the discussions, practical sessions or evaluation sessions since they are not the target group.

1. Staff

The lecturers will obviously be involved at all times, but would need help from a professional librarian throughout the whole period, and in particular during the preparation period and the practical sessions of the workshop. Typing assistance will also be required, particularly during the preparation period. Work sheets will need to be prepared from stencils and photocopying facilities (preferably Xerox) will need to be on hand for immediate use.

2. Participants

a. Workshop for Practitioners

The group size should not be in excess of 20-25, and only above 20 if professional help is available for practical sessions. The group should be relatively homogeneous, i.e. if subject interests are too dissimilar then there can be problems. It would be useful to have information as soon as possible about the group including the following:

Firm/employer
Age and qualifications
Subject knowledge/interest
Job description

b. Course for Students

A total of three lectures could be given to any number of participants, but the practical follow-up sessions would need to be limited to a maximum of 30. Information on course/subject knowledge would be necessary as soon as possible as in (a).

3. Siting of Workshop

The workshop must be held in an institution which also houses a major collection of abstracting, indexing, bibliographic and reference tools.

The lecture room should be capable of seating the group comfortably but should not be too big. It needs to be capable of 'blacking out' and has to have an adequate projection screen.

a. Stock arrangement

Answers to the following are required:

Is there a centralised collection of finding tools? For example, where are the following located?

i. British Books in Print OR Subject Guide to Books in Print OR Library of Congress, Subject Catalogue OR the National Bibliography of the country concerned.

ii. UN Statistical Yearbook
Handbook of Chemistry and Physics (Chemical Rubber Co.)
Kempe's Engineers Year-Book

iii. Chemical Abstracts
Science Citation Index
Engineering Index

How does one find a book, for example on:

i. Study technique

or ii. Management of research organisations?

b. Stock Content

Answers to the following are required:

i. What book lists, national bibliographies and printed catalogues are available?

ii. What is the total number of books in the reference collection in Science and Technology in particular?

iii. How many current abstracting journals are taken?

iv. What is the starting date of the holdings of Chemical Abstracts and Engineering Index?

It would be useful if the instructors could send copies of the following if available (or at least a list of them):

i. Library Guide.

ii. Any other publications produced for library users.

iii. Any lists of reference books, abstracts, journals, etc., of which copies are freely available in the library.

4. Equipment Requirements

In addition to availability of duplicating and photo-copying equipment already indicated, the following will be required:

a. Projector for 35 mm slides with multiple slide carrier and remote (pulse) operating facility.

b. 16 mm projector for sound/cine film.

c. Overhead transparency projector.

5. General

A detailed programme will need to be produced and circulated as soon as possible.

The Training for Users of Library Service in Thailand

by Sritong Sihapong

Background Information

The past and present scenes in library education in Thailand reflect a strong American influence. In 1951 the first library training program was introduced at Chulalongkorn University under the auspices of the Fulbright Foundation. At the same time the United States Information Service established a public library in Bangkok, named USIS Library. Two years later, the College of Education (Prasarnmit) made a contract with Indiana University, who subsequently sent professors and specialists in education to help develop the library work along with other areas of the College development programmes. At that time Prasarnmit was the first college which offered a bachelor's degree in Education in Thailand. Before this time the highest level of teacher education in Thailand was Secondary Education Certificate or Diploma in Education and the schools did not have any library in its proper sense. When the American professors and specialists came to work at the College of Education, a proper library was greatly needed for the students and for their own reference and for the preparation of teaching programs. Thus the first modern college library was inaugurated at the College of Education in 1957. The library was highly subsidized by the contract i.e. $30,000 per year. As a result the library was growing rapidly.

The Contract also upgraded Thai instructors of the College of Education by sending them to continue their studies at Indiana University. Library Science was one of the promoted fields. The instructors who were sent to study library science were committed to come back to work in the College library so that when the contract was ended and the American librarians and professors went back to the United States of America, the College could maintain and advance its work by the Thai instructors who were trained by the Contract. With the big amount of the contract library subsidy the library of the College of Education-Prasarnmit and its two branches - Bang-Saen and Pratoomwan could meet the needs of instructional staff within few years. But the use of the modern library for educational purposes was

still new for Thai students, for they had been familiar with the instructional method whereby the teachers taught and the students listened and took notes. They knew very little how to search for knowledge in the library and that was the thing which librarians at the College of Education wanted to train their students. So in due course, a program for training library users was drawn up and proposed to the Administrative Board of the College. The Board accepted the program as a required course in the curriculum of bachelor's degree level. The library training user course was a two-hour/week, one credit course, offered to first years students in the first term. The library training program was first introduced at the College of Education-Prosarnmit and its two branches Bang-Saen and Pratoonwan in 1958. The outline of the program is as follows:

The objectives of the training program.

1. To provide the teacher-student's understanding of the library's function in the educational institutions.

2. To provide reading habits and library using skill for teacher students.

3. To provide instruction method in the use of books and libraries for teacher students in the hope that they may convey this method to be used when they become teachers.

4. To suggest to the teacher students ways to build appreciation for and proficiency in the use of books and libraries.

5. To describe the keys and tools that unlock the vast treasures and learning resources contained in libraries.

The course contents were divided into 8 chapters:-

Chapter 1. Kinds of modern libraries and their functions: school library and its objectives, college or university library and its objectives, public library and its objectives, and the special library and its objectives. The regulation of the library.

Chapter 2. Arrangement of the educational materials and facilities in the library, circulation books, reference books, government publications, journals and magazines, pamphlets and other printed materials, and audio-visual materials.

Chapter 3. Parts of a book: the end papers, the frontispiece, the title page, the dedication, the preface, table of contents, list of maps and illustrations, body of text, appendix, bibliography, the index.

Chapter 4. How to locate books and library educational materials: book classification systems, (Stress on Dewey Decimal Classification System) and the arrangement of books according to call numbers. Using the card catalog, filing rules, cross references.

Chapter 5. The periodical collection: types of periodicals the library has, locating periodical articles, index to periodical literature.

Chapter 6. Basic reference books: dictionaries, handbooks, encyclopedias, almanacs, indexes, and bibliography.

Chapter 7. Information file, and audio-visual materials.

Chapter 8. Writing report and term paper: choosing subject and finding materials; planning strategy, getting bibliography together. Form of thesis or term paper.

Method of teaching. Lecturing is the general method of instruction, allied with demonstration of using library materials, reading assignment, and doing practical exercises.

Teaching material. The College's library was used as the source of teaching materials. It was a medium-sized library containing about 30,000 books, 150 journals, 500 filmstrip reels, 100 motion picture films, picture file, information file, map and chart file; phonodiscs and tape-recorders.

Problems. There were many problems in the first two years of teaching. One was the limited-experience of the instructors; another was the fact that most books, periodicals and educational materials were in English. At that time the library had only a small collection of Thai books. Students had to read and use English books and therefore it was very difficult for them to understand. Hence, for the teacher to explain to them and help them to locate books and get information was time-consuming. In the third year the situation was better. The number of the library users was increasing and most of the knew how to utilize library educational materials for their studies and became more familiar with English books. To solve the problem of scarcity of books in Thai language the librarians had to ask for donations or buy back issues of all Thai journals from the instructors of the college, from educated men and from schools where they did not want to keep those printed matters. To make it convenient for the users of Thai journals which were published since 1956, I began to make an index to Thai periodical literature in card form in 1959. This was experimented at Bang-Saen College of Education. The index helped solve the problem of

shortage of Thai printed materials very well. I continued to compile an index to Thai periodical literature until 1972. In 1963 I proposed that the index be published in book form to the Supervisory Unit of the Department of Teacher Education, Ministry of Education. The Unit accepted my proposal and began to publish the index in the form of a book in 1963, and the books were distributed to all university libraries, teachers college libraries, and the secondary schools throughout the country. Since that year The Supervisory Unit of the Department of the Teacher Education has continuously published the index to Thai periodical literature every year.

In 1963 I moved from Bang Saen College of Education and came to work at the Supervisory Unit, Department of Teacher Education. My new post was Library Supervisor. The scope of my work was limited to the certificate teacher education level. There were only 27 teacher training schools and colleges throughout the country. At that time nine teachers training colleges had trained librarians working part-time in libraries, and there were three teacher training schools which did not have libraries, they had small collections of books stored in one part of the head master's rooms. After making a teachers training library survey, I wrote a program for developing libraries in the teachers training colleges and schools and proposed the program to the Director General of the Department of the Teacher Education. Two years later all teachers training colleges had trained librarians working in teachers training libraries. So in 1965 I proposed a program for training library users to the Curriculum Development Committee of the Department. At first they would not accept it but when I convinced them about the reading guidance, the importance of self-studies, and the quality of teacher training which the library might contribute, then the Committee included the training of library users into the elementary teacher education training curriculum. (Paw Kaw Saw). It was a course of two quarter credits, compulsory for first year students. Before the program was operated the Supervisory Unit organized a three day seminar for all the librarians of the teachers training college libraries who would take the responsibility of teaching the course. The content of the course was discussed and the curriculum was analysed in order that every one should know what they were supposed to teach and how much to teach. After that seminar I wrote a textbook for the course, for both teachers' and students' use. The book was published five times by the Supervisory Unit, Teacher Education Department, and 25,000 copies were sold out.

There were also many problems at this level of library user-training, such as the lack of experience on the part of the teachers and the inadequacy of library facilities. Many libraries did not have a card catalog because of inadequate library staff. It took many years to solve this problem. Another problem was inadequate books and other printed matters printed in Thai. Students could not use English books. They could utilize Thai

printed materials only. So the training was limited. The teaching staff in the teachers training college was another problem for the library user-training. Many of them did not know how to assign reading materials for their course study. The Teacher Education Department helped solve the problem by organizing seminars for teachers of the teachers training colleges. The program has been taught until 1974.

In 1971 I moved from the Supervisory Unit, Teacher Education Department and went to work as head of the Library Division at Khon Kaen University. I proposed the program of library user training, but it was not accepted. When we could not push such program in the university curriculum, we therefore trained small groups or individual students by demonstrating the use of the library materials for their studies and published library manual for users, and distribute them free of charge to instructors and to students. In 1974 we organized training for library users to students who were interested in the program. We used two hours a week to train them, and the program was completed within six weeks. In 1975 the library Science Department was established at the Faculty of Science and Arts and the library users' training course was introduced to the curriculum of Library Science Education. This course is the required course for library majors and it is the elective course for students of other fields in the University.

All this is as far as I am concerned in the training library users. But other Universities and institutions also have organized their own programs and activities for example Thamasat University, Chulalongkorn University, Ramkamhang University and Cheingmai University. The National Institution of Development Administration has prepared and published an Index to Thai periodical literature, an Index to Thai Newspaper Literature, a Selective List of recent Library Acquisitions, and Book Abstracts, all of these must include in the information retrieval training users too.

STATUS REPORT ON THE UNISIST PROGRAMME AND PLANS FOR 1977-78

O U T L I N E

by
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Unesco

I. Unesco Draft Medium-Term Plan (1977-1982)

A. Significance of plan
B. Major objectives vs. world problems

II. Transfer and Exchange of Information

Introduction of Chapter X of Medium-Term Plan

III. Development and Promotion of Information Systems and Services at the national, regional and international levels (objective 10.1)

IV. The four sub-objectives of objective 10.1

A. Sub-objective 10.11 : To promote the formulation of information policies and plans (national, regional, global)

B. Sub-objective 10.12 : To promote the establishment of norms and their dissemination

C. Sub-objective 10.13 : To assist in the development of information infrastructures and specialized international information systems

D. Sub-objective 10.14 : To promote the training and education of professionals and users of information

V. The Programme Structures of Unesco in the Fields of Information and Documentation Systems, Libraries and Archives

A. State of the problem
B. Lines of emphasis in the Draft Medium-Term Plan

VI. The Information Activities of the UN System

The UN Secretary-General report to the General Assembly - UNISIST as a "General programme"

VII. The idea of a "general programme" - Proposals of the Director-General of Unesco to the General Conference (19th session)

A. Definition of a "general programme"
B. Unesco Sectoral Programmes
C. Proposed structure of the general programme
D. A single Steering Committee and a single Advisory Committee

VIII. Review of on-going and planned activities in the UNISIST programme

The Status report presented is based on the following documents:

UNECOSOC, The Establishment of a Network for the Exchange of Technological Information - Report of the Secretary General (E/5839), U.N., New York, 14 June 1976

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Based on UNISIST's Recommendations

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I wish to report briefly on some projects which are being carried out or are envisaged in the Region and more specifically at the Asian Institute of Technology. These projects are based on several UNISIST basic recommendations.

1. Survey of resources

The first group of projects I shall mention fall within UNISIST recommendations no.1 and 3 concerning "Surveys of resources" and "World register of scientific periodicals."

1.1 A major achievement in that field has been the creation last March 1976 of an ISDS Regional Centre for South East Asia located in Bangkok at the National Library of Thailand. That Center will contribute to the activities of the ISDS International Center. As you know the International Serials Data System (ISDS), as established within the framework of the UNISIST programme is an international network of operational centres, jointly responsible for the creation and maintenance of computer based data banks, which contain essential information for the identification of serials. The aim of the ISDS is to provide a reliable registry of world serial publications. It is responsible for assigning to each serial a unique and unambiguous numeric code identifier, the International Standard Serial Number (ISSN). In addition, ISDS has responsibility for making its data banks available to all participating countries, organizations or individual users.

The creation of the Regional Center in Bangkok means therefore that South-East Asia has joined the network of regional and national ISDS centers, and will input the information on serials published in the Region into the ISDS world data bank. Additional information on the project can be requested from Mrs. Maenmas Chavalit, Director of Thailand's National Library.

What I would like to underline here is the importance of all actions taken to survey precisely the available information resources. Considering the considerable amount of publications existing today and their rapid growth rate, no one Information Center can afford to have comprehensive holdings. Therefore, an Information Center has to rely for part of its needs on the holdings of other Centers, and as a first step must of course know what information resources are available in the world and where they are available.

In relation with that problem I wish to mention other attempts made to improve this awareness of existing holdings in the Region of South East Asia.

1.2 AIT has initiated together with about 20 Thai libraries and with support from UNESCO the making of a Union List of Serials in Thailand. A first stage dealing with "Union List of Abstract and Index Journals" has been completed. Further work covering journals in the "Health Sciences" and "Education" fields is being undertaken. Later "Social Sciences" journals may be done.

All other scientific fields are covered by the already existing "Union List" established by TINDC - which ought to be taken as a basis for which help could be provided to ensure its efficient updating and eventual computerization.

Now that project leads me to make a few comments. "Union Lists" are a rather obvious thing to create in the scope of improving knowledge of Information Centers holdings. Hence all countries of South-East Asia either have done or are envisaging doing such "Union Lists". Apparently they tackle the problem independently which in my opinion is a pity because it leads to duplication of efforts with consequent waste of money and time. I would strongly suggest a closer cooperation between all organizations involved in "Union List" problems. They could greatly benefit in their undertakings from already existing experiences and achievements - at least in the region. It would save time and money and if some sort of standardization in the methods of creating the Union Lists existed - could have an additional interest; the exchange or merging of National Union Lists into a Regional Union List.

As far as AIT and the Thai libraries involved in our own project are concerned, we are most willing to make our experience (manual, input sheets, computer programs) available to anyone interested.

1.3 Another closely related problem is that of indexing or classifying publications, that is to say "Cataloguing". I am sure all libraries are faced with the same problem: considerable time needed to catalogue acquisitions which nearly always leads to large "backlogs" and great loss in efficiency for locating publications already acquired.

Now most of the publications at the time they reach South East Asia are already catalogued elsewhere - in machine-readable catalogues such as that of the Library of Congress or the British National Bibliography (MARC tapes). Consequently why not make use of the existing cataloguing data? and why duplicate everywhere with increasing difficulties what has already been done? The idea seems obvious but practically the main obstacle is the high costs of acquiring and searching the MARC tapes. In developed countries, National Centers can afford to do it (for instance, the Australian National Library). In developing countries this is not yet possible but it could be made feasible at a regional level by sharing the costs. This might well be an interesting regional cooperative venture worth considering. The idea is that, through a regional center having access to the MARC tapes to computer facilities the cataloguing data needed by the participants would be extracted from the tapes and printed on catalog cards. At the same time, a MARC tape of holdings in the region could be easily done and give the possibility to print out and update Union Lists of Holdings at the level of participating institutions, or countries, or at the general regional level.

With all this in mind, AIT is undertaking a preliminary feasibility study, in particular through contacts with the Australian National Library which operates the MARC tapes system. Later on according to our first results we might discuss the project with any regional, national or individual organizations who would be interested in such a cooperative regional operation.

2. Strengthening of basic access services and of Information Analysis Centers

Another group of projects in which AIT is involved answer UNISIST's recommendations no.8 and no.9 on the "Strengthening of basic access services" and of "Information Analysis Centers".

AIT has established in 1973 a specialized documentation center called "Asian Information Center

for Geotechnical Engineering" (in short AGE), sponsored by IDRC (Canada). Its aim is to provide Asian users an easy access to the information available in the field of geotechnical engineering and also to provide the rest of the world with whatever is generated in Asia in that field. In other words, AGE is meant to fill "an information gap" in Asia.

AGE does so through publications: "Abstracts Journal", "Current Awareness Service", "Holdings Lists", also through referral and reprographic services. It builds up a computerized data base which could be the Asian component ready for input into a larger international system.

A workshop organized at AIT last April with the participation of the main organizations involved in geotechnical information has enabled to evaluate AGE after 3 years operations. Out of that meeting's recommendations, one underlined the usefulness and need of having an Information Center such as AGE, another stressed the importance of increased cooperation with other Centers at an international level to avoid duplication and seek complementarity. As a consequence of that evaluation, AGE is carrying on with a revised improved programme.

It must be stated however that operating a Center such as AGE is a difficulty undertaking - its main purpose is to serve developing countries users. These having very limited means for acquiring information AGE's services must be offered at very low prices. This means that such Centers cannot be self-supporting and require financial support. That is a vital issue for which support from international organizations or from developed countries is highly necessary.

With the same motivations and aims as for AGE, AIT is considering setting up other specialized information units in the following fields: Ferro-Cements, Solar Energy, Human Settlements, Water Resources. These projects are based on demands from specialists in those areas which seems to imply that there are real needs and "information gaps" there too to be filled.

Faced with a situation where many information units might be created, AIT is studying the feasibility of coordinating all these information activities by setting up a major Regional Documentation Center, backed by the recently created AIT Regional Computer Center and considering also the possibility to have access to American data bases networks through a telecommunication satellite (PEACESAT Project) studied by AIT.

Now the creation of a Regional Documentation Center which very likely will be inscribed at AIT's official programme raises many problems and must be carefully planned.

It must not duplicate activities of existing Centers in the region but fill proven "gaps". It must be operated in close cooperation with existing centers and ideally be simply a node in a regional network. Therefore, AIT plans in a near future to study the whole problem with existing Asian Information Centers, international organizations and any parties involved in transfer of information at a regional level.

All these considerations are in keeping with UNISIST recommendations no.15, 16 and 17 which deal with cooperation between national information agencies, service networking and information transfer networks. They are also in keeping with Unesco's NATIS programme which tends to strengthen national information structures.

3. Training of users of scientific information

Another problem to consider in planning to set up any Documentation Center is: will it be used? - if it is not, it becomes useless! and this brings me to the purpose of this Seminar on Users' Training.

I have the feeling that we shall often find a very paradoxal situation. On the one hand the needs for information are increasingly important, everywhere and particularly in developing countries. On the other hand, whenever new information centers or facilities are made available, they run the risk of not being sufficiently used, because of insufficient training and awareness of the users.

In other words, I want to state that training of users of information is a vital prerequisite to the setting up or improvement of information facilities and networks. These can only be efficient if there is no "ditch" between information centers and users. Consequently I am very happy to see that Unesco by organizing within its UNISIST programme this Seminar and by drafting "Guidelines for users training" is keenly aware of the problem and is taking action to solve it.

The Seminar and Guidelines have already acted as a "catalyst" to try to materialize some thoughts we had in mind at AIT. According to the saying that "one must practise what one preaches", we are envisaging to create at AIT a course in "Training of Information Users" for our 400 students. The project could be initially to give our students a short course with practical exercises aiming at two things: first

know how to use AIT library resources properly, second know, before they leave AIT, how they can acquire the information they will need in their professional life, which implies knowing how to search, what information sources or facilities exist in their field of specialization, and where these are located.

That training activity is only being planned now. If successful it has been suggested to us we ought to make it available outside AIT to meet needs in "users training" in Asia.

If I may, I would like to add one more comment on training problems. I believe that besides users training it is equally important to consider "permanent training" of library and information staff. Information Science is developing fast both in information sources and information retrieval storage and dissemination techniques. Professional staff to remain efficient must be permanently trained and informed of the new developments occuring in Information Sciences. This need is considered by UNISIST's recommendation no.13 on "Manpower development". In my past experience I have been deeply involved in that aspect of training and I know it to be highly valuable and necessary. We plan at AIT to initiate such training for the staff of our own Library and Information Center. If and when such "permanent training" programme is successfully established at AIT, we would of course be willing to open it to other non-AIT interested parties in Thailand or in other Asian countries. That type of activity has already been encouraged and supported in the past by Unesco for instance by organizing and funding short training courses. Further support from Unesco would be needed in the future to develop this training activities for information staff.

4. Conclusion

Many actions are being undertaken in Asia to implement UNISIST's recommendations but far more are needed to improve quickly and efficiently the information facilities of the region. Increased support from Unesco is highly desirable for specific projects which must be carefully planned. They must be closely adapted to local situations and aim at solving immediate practical problems paving the way for more sophisticated, long-term information activities and infrastructures. Closer cooperation between Asian information centers is also highly necessary so as to optimize the limited means available in the region to develop and improve information facilities.

Addendum :

In the field of training activities I would like to mention two more items which in fact concern training in Information Technology.

The first is a course given at A.I.T. in the Division of Industrial Development and Management, headed by Dr. Pakorn Adulbhan, on "Management Information Systems" largely based on use of Computer Technology.

The second is the intensive training activity of A.I.T. Computer Centre, headed by Dr. Tongchat Hongladaromp, which is organizing or hosting a series of seminars on Computer management and Computer applications.

Annex

Some additional UNISIST projects and activities implemented in Asia

- Regional Training Course in Networking and Systems Interconnection (Japan)
- Regional Training Workshop in Administration for Managers of Information systems and Services (Philippines)
- Workshop for the Training of Users of STI (Rep. of Korea)
- Workshop for the Training of Users of STI (Indonesia)
- Workshop for the Training of Users of STI (India)
- Workshop for the Training of Scientific Editors (Philippines)
- Workshop for the Training of Scientific Editors (Indonesia)
- UNISIST Meeting of Experts on Regional Information Policy in South and Central Asia (Colombo - first meeting)
- UNISIST Meeting of Experts on Regional Information Policy in South and Central Asia (New Delhi - second meeting)
- UNISIST Seminar on Training of Users of Scientific and Technical Information (Thailand)
- SDI Pilot Project (India)
- UNISIST/European Space Agency RECON on-line demonstration project (India)

REGIONAL INFORMATION NETWORK FOR SCIENCE & TECHNOLOGY FOR SOUTHEAST ASIA

By

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One normally welcomes surprises in one's life, but there are those that come as a shock which can put one off-balance. And my talk this afternoon is one of such cases, for I did not know that I was to present another paper in this Seminar on the Regional Information Network until I arrived here in Bangkok. So I hope you will forgive me if I present this afternoon, off-the-cuff so to speak, an account of the background of the Project Document now coded as RAS/75/034/A/01/13 and entitled the Regional Information Network for Science & Technology for Southeast Asia. It is an inter-regional project of the Governments of Indonesia, Korea, Malaysia, Philippines, Thailand and Hongkong. It was conceived to start in June 1976 to last for a period of six years, under the guidance of Unesco and funded by UNDP for a total of $1,042,050.00.

This Project was formalized after sending a series of Unesco missions to the various countries in the region in an attempt to determine the status of national information systems and networks along the framework provided by UNISIST in order to identify areas which needed to be developed and improved. The main objective therefore of the project is to provide assistance to such a group of countries with close political and cultural linkages in raising their science information systems to a level that they can meaningfully share and make use of the world literature in science and technology.

I will not go into the details of the project as the Project Document can be made available to interested parties, but will highlight only the part or component which was made a responsibility of the Philippine Government. A number of important problems were identified by the two fact-finding Unesco missions, but what was interesting in these findings is the common component on education and training for information specialists, among other things, as the main problem in all countries of the region. This project, therefore, was drawn up basically to solve that major problem. Quoted hereafter are some important portions of the project for your enlightenment:-

1. Phasing of Project:-

As programmed, the project will consist of three operational phases:

a. January 1976 to March 1977

During this period a regional nine-month post-graduate training programme leading to a diploma for information specialists will be developed and tested on the full operational level. Some consultant advisory missions, using personnel teaching in the post-graduate programme, will be carried out dealing with development of compatible approaches to topics such as indexing, storage and retrieval, and the ground work will be laid for the full programme.

b. March 1977 to 1978

The training programme including the post-graduate programme and specialized rotating workshops will be continued with increasing reliance on regional consultants and local staff. Greater emphasis will be placed on regional coordination in the preparation of Union Catalogues, directories etc., and on the development of information policy guidelines, both types of activity relying primarily on national manpower with some advisory sources from project personnel. An experimental SDI (Selective Dissemination of Information) pilot project will be carried out in cooperation with Australia and other pilot studies will be identified and prepared at the national level.

c. 1979 to 1981

The training programme will continue but mainly with regional consultants and local staff. Emphasis will shift to identification and analysis of detailed regional information needs and availability, pilot studies on specialized services, and the developing of formal linkage for automated exchange of information within the framework of the regional network.

There will be an in-depth review between phases by members of the Coordinating Committee and concerned agencies and programmes.

2. Project Supervision:-

The monitoring of the project will be carried out by a Coordinating Committee composed of:

a) one or more representatives of each participating Government

b) one representative of UNDP

c) one representative of the Executing Agency

d) observers from organizations with related activities.

The Committee will meet towards the end of each phase to examine and analyze the progress which has been made, and to make recommendations on the Work Programme for the next phase, to be based on regional priorities and the availability of national inputs to proposed regional activities. It is assumed that the Committee will continue to function after the termination of UNDP assistance.

3. Immediate Objectives:-

1. To establish at the University of the Philippines a nine-month, interdisciplinary post-graduate programme leading to a diploma for information specialists from the countries of the region. The programme will train 20-25 specialists per year.

2. To organize on a rotating basis a series of national refresher workshops for the training of

a) technical information personnel to update their knowledge of information handling techniques,

b) managers of information systems and services to expose them to managerial approaches to the more effective administration of these systems,

c) users of information for the better utilization of information services and resources available on the national, regional, and international level.

The following major objectives are to be accomplished relying primarily on the appropriate national resources, in concertation with objectives 1 and 2.

3. To ensure the bibliographic control of documents containing the research and development output of the institutions of the region; to prepare union catalogues, directories of scientists, list of scientific institutions, and other basic tools for the effective reference and exchange of information - adopting whenever possible common methods and techniques and following UNISIST guidelines and ISO standards.

4. To reinforce and expand national information and services to better meet user needs.

5. To establish and consolidate the National Focal Points responsible for guiding, stimulating and coordinating the development of information resources and services at the national level, and to encourage the working out of policy guidelines, regional cooperative programmes and agreements for the exchange of scientific and technical information across national boundaries, according to UNISIST principles.

6. To carry out pilot projects on the regional level to study the economics and usefulness of obtaining access to foreign data bases and the introduction and adaptation of new information technologies for meeting local information user needs.

7. To prepare a systems analysis and facility study for the establishment of formal linkages and lines of communication between national nodes with a view to establishing a formal regional network.

8. The establishment of a regional network capable of carrying out the above functions is the final objective of the project.

4. Course Content:-

The course covers the following major subject areas:

1. Introduction (25 hours)
2. Abstracting and Information Labeling (150 hours)
3. Information Storage (135 hours)
4. Information Processing (100 hours)
5. Information Retrieval (45 hours)
6. Information Services etc. (60 hours)
7. Design and Management of Information Systems (70 hours)
8. Information Policy (20 hours)
9. Supplementary Items (150 hours)

The Regional Project is expected to produce a good, sizeable number of trainors in each member country of the region, so that in the six-year lifetime of the Project, there would have been trained a corps of trainors to undertake conduct of education and training programs in their respective countries. It is expected that within six years the region, by virtue of the multiplier effect of this program, will be self-sufficient in terms of good, well-trained information specialists and will have a sizable group of well informed users. Once there at that stage, the regional center sheds its regional character and becomes a national center.

The Project is now, however, meeting difficulties in getting funding, because of the inability of UNDP to provide the funds. But the Unesco Regional Office for Science and Technology in Jakarta, through its Director, Mr. James McDivitt is doing its best to tap other sources of funds. The informal talks indicate positive reaction from IDRC and my former teacher, Prof. Dr. Helmut Arntz, has indicated willingness to help us out in convincing the Federal Republic of Germany to give some assistance. Unesco Paris, I am sure, will also give assistance to get the project started.

All told, I may have my own share of heartaches because of the deferment of projects' implementation, but because I believe in the merits of the project, I still believe its realization is certainly forthcoming. Because, too, I do believe that Mr. McDivitt will not allow to go to waste a good, well conceived project like this, which he in effect fathered, and which, through our own modest campaigns in regional forums like ASEAN and ASCA, earned the unanimous sponsorship of the six governments in Southeast Asia. I personally believe that he will do his best to get this project born and once born, we in the Philippines will see to it that it is healthily nurtured.

Thank you.

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